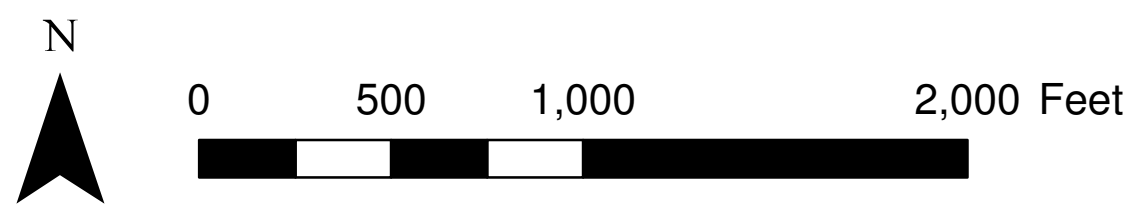
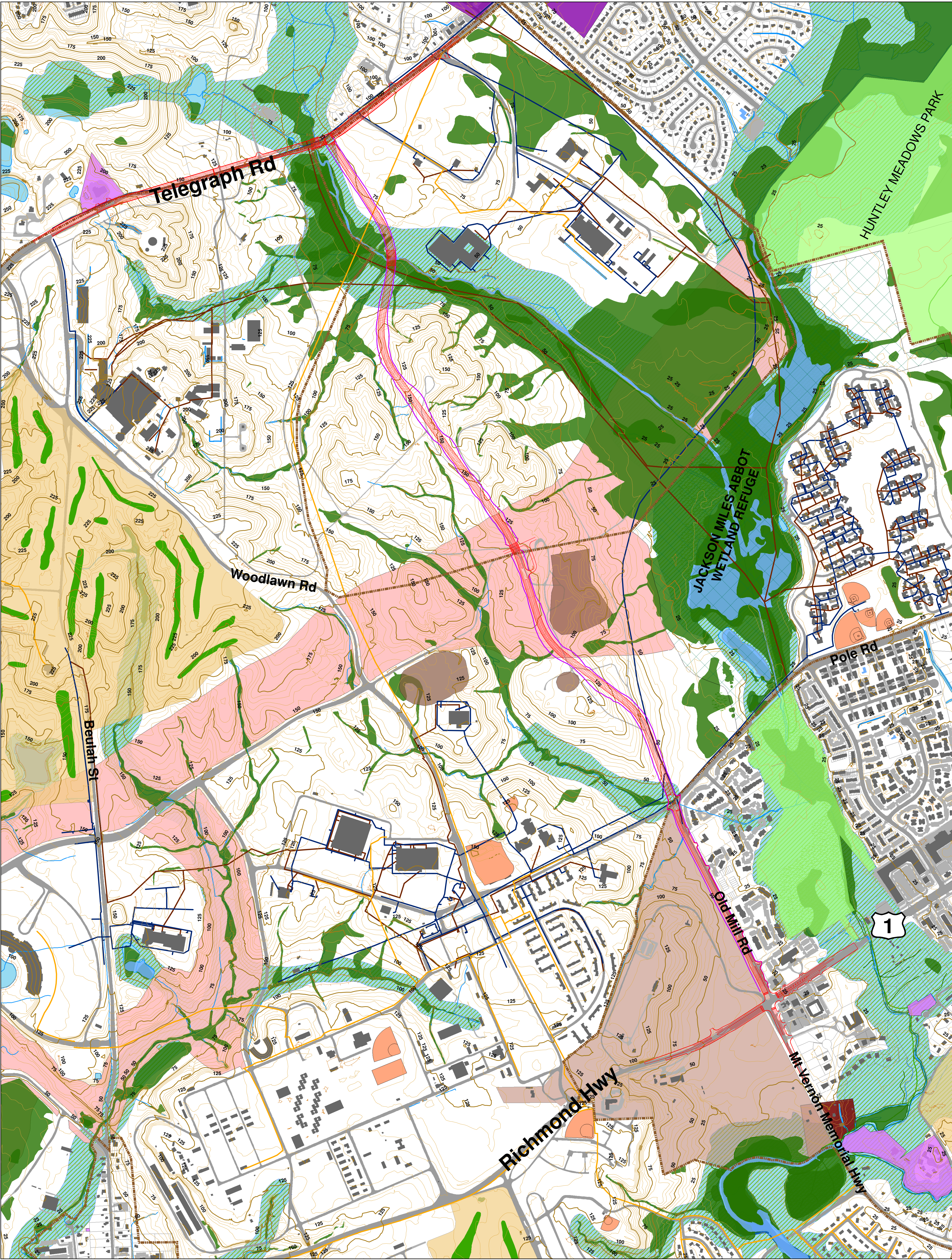


Key Resources Impacts and Mitigation

Resource	Impacts	Mitigation
Land Use, Plans, Visual Environment	<ul style="list-style-type: none"><li>Converts 2.6 acres of undeveloped land from Woodlawn Plantation</li><li>Converts approximately 39 acres of undeveloped land on Fort Belvoir/ HEC to transportation use</li></ul>	<ul style="list-style-type: none"><li>Provide landscaping and pavement treatments at U.S. Route 1/Old Mill/Mt. Vernon Memorial Highway intersection</li><li>Revegetate side slopes</li><li>Plant trees where allowed and shrub and small trees within clear zones and medians where appropriate</li><li>No new access points to Fort Belvoir/HEC, except for one emergency use only gate for Humphreys Engineer Center (HEC)</li><li>See Cultural Resources</li></ul>
Natural Resources		
Geology, Soils, Groundwater	<ul style="list-style-type: none"><li>Clears and grades approximately 1.5 miles of undeveloped, rolling terrain</li></ul>	<ul style="list-style-type: none"><li>Avoid steep slopes and erodible soils as much as possible</li><li>Include low-impact design techniques for surface water runoff to improve groundwater recharge.</li><li>Revegetate side slopes</li></ul>
Water resources and wetlands	<ul style="list-style-type: none"><li>Crosses less than 1.2 acres of wetlands, spanning nearly all of the wetlands</li><li>Crosses 1,110 linear feet of streams within the Dogue Creek watershed</li></ul>	<ul style="list-style-type: none"><li>Avoid placement of roadway or piers in wetlands or streams</li><li>Span Piney Run at both proposed crossings</li><li>Provide perpendicular bridge crossings to minimize encroachment to Resource Protection Areas (RPAs)</li><li>Apply bio-retention facilities and rain gardens for stormwater management where possible</li><li>Provide appropriate type and ratio of wetland mitigation, or purchase wetland credits, or provide payment to a wetland restoration trust fund.</li><li>Avoid construction staging in wetlands, floodplains or RPAs</li></ul>
Natural Environmentally Sensitive Areas	<ul style="list-style-type: none"><li>Traverses 1,850 linear feet of the Forest and Wildlife Corridor on Fort Belvoir, about 7.1 acres</li><li>Crosses 2,175 linear feet of designated Resource Protection Areas (RPAs), much is spanned</li></ul>	<ul style="list-style-type: none"><li>Construct a major wildlife crossing within the Forest and Wildlife Corridor, with a 17’ height</li><li>Construct two minor wildlife crossings/culverts in the Corridor</li><li>Remove pavement of two-lane existing (closed) Woodlawn Road through the Corridor, and reforest</li><li>Erect no right-of-way fencing through the Corridor</li><li>Provide wildlife drift fencing, if appropriate, at the crossings</li><li>Provide no street lighting through the Forest and Wildlife Corridor</li><li>Span RPAs as much as possible</li><li>Consider additional reductions in facility design (e.g., reduced lane widths) to reduce direct footprint</li><li>Avoid construction staging in sensitive areas</li></ul>
Habitat and Threatened and Endangered Species	<ul style="list-style-type: none"><li>Avoids direct impact to any known federally-listed species</li><li>Potentially impacts habitat of state-listed Wood Turtle</li><li>Converts approximately 39 acres of Fort Belvoir and HEC property to transportation use</li><li>Converts about 7.1 acres of the Fort Belvoir Forest and Wildlife Corridor to transportation use</li></ul>	<ul style="list-style-type: none"><li>Construct three major wildlife crossings, one within the Forest and Wildlife Corridor</li><li>Construct four minor wildlife crossings/culverts, two within the Forest Wildlife Corridor</li><li>Span both potential crossings of Piney Run</li><li>Use ‘open’ median to maximize daylight at stream crossings</li><li>Remove pavement of two-lane existing (closed) Woodlawn Road through the Corridor, and reforest</li><li>Erect no right-of-way fencing through the Corridor</li><li>Provide wildlife drift fencing, if appropriate</li><li>Provide no street lighting through the Forest and Wildlife Corridor, and reduce it through other forested locations to reduce nighttime impacts on wildlife</li><li>Provide field observation during construction to relocate Wood Turtles to suitable habitat outside the project impact area</li><li>Revegetate side slopes</li></ul>
Cultural Resources		
Historical	<ul style="list-style-type: none"><li>Requires approximately 2.5 acres of forested land from the National Historic Landmark parcel of Woodlawn Plantation</li><li>Requires approximately 0.1 acres of land from Woodlawn Plantation Stables property</li><li>Alters visual experience at the U.S. Route 1/Old Mill Road/Mount Vernon Memorial Highway intersection</li><li>Relocates Woodlawn Plantation’s driveway</li></ul>	<ul style="list-style-type: none"><li>Transfer 2.5 acres within the Historic District to the National Trust for Historic Preservation (owners of Woodlawn Plantation)</li><li>Provide pedestrian/bicycle facilities including the extension of the Potomac Heritage National Scenic Trail to Woodlawn Plantation</li><li>Provide landscaping treatments and interpretive signage consistent with Woodlawn Plantation’s rural, pastoral character</li><li>Relocate entrance to Woodlawn Plantation</li><li>Satisfy terms of Memorandum of Agreement (MOA) with State Historic Preservation Officer (SHPO)</li></ul>
Archeological	<ul style="list-style-type: none"><li>One site (44FX1146) on Woodlawn Plantation property potentially impacted</li><li>Two sites (44FX041 and 44FX1944) on Fort Belvoir potentially impacted</li></ul>	<ul style="list-style-type: none"><li>Conduct additional archeological surveys</li><li>Implement avoidance or removal consistent with MOA</li><li>Apply appropriate procedures to other sites which may be identified</li></ul>
Physical Environment		
Hazardous Materials, Air Quality, Noise, Utilities	<ul style="list-style-type: none"><li>Traverses former Firing Ranges on Fort Belvoir/HEC</li><li>No air quality exceedance</li><li>Impacts 6 noise sensitive receptors along Telegraph Road</li></ul>	<ul style="list-style-type: none"><li>Remediate ranges prior to construction</li><li>Potential sound barrier along Telegraph Road</li></ul>
Socioeconomics		
Demographics, Environmental Justice, and Relocations	<ul style="list-style-type: none"><li>Requires minor taking along Telegraph Road</li><li>Requires 2.5 acres from Woodlawn Plantation</li><li>Alters access to certain businesses and residential developments to right-in-right-out</li><li>Realigns Mount Vernon Memorial Highway</li></ul>	<ul style="list-style-type: none"><li>Attempt further reduction in right-of-way or construction easement</li><li>Maintain access during construction</li><li>Avoid night-time construction activities near residential areas</li><li>Use existing VDOT right-of-way for realigning Mt. Vernon Memorial Highway</li></ul>
Community Facilities and Services, Utilities, and Traffic	<ul style="list-style-type: none"><li>Relocates some utilities</li><li>Certain intersections may experience lesser level-of-service</li></ul>	<ul style="list-style-type: none"><li>Maintain access and services during construction</li><li>Provides replacement access for lost access of Woodlawn Road; anticipate average daily traffic of approximately 20,000</li><li>Provide median breaks in Connector Road for emergency vehicle access</li><li>Provide shared-use path along the alignment for enhanced pedestrian and bicycle mobility</li><li>Consult further with VDOT and FCDOT for placement of turning lanes, opportunities to reduce conflicting movements, and optimization of signal timing</li></ul>





<b>Legend</b>		
Alignment 4CR Pavement (3-15-06)	Open Water	Parks - Fairfax County Park Authority
Alignment 4CR LOC (3-15-06)	Wetlands	Golf Course
Fort Belvoir/HEC Boundary	Resource Protection Area	Fort Belvoir Athletic Fields
Woodlawn Historic District	Forest and Wildlife Corridor	Gas Main Line
George Washington's Gristmill	Fairfax County Schools	Water Main Line
Landfills	Other County Property	Wastewater Main Line

**Environmental Constraints  
Alignment 4CR**

***FHWA Richmond Highway - Telegraph Road Connector  
Fairfax County, VA***